

SYSTEM FOR CONTROLLING A MAGNETICALLY LEVITATED ROTOR

ABSTRACT OF THE DISCLOSURE

In a rotor assembly having a rotor supported for rotation by magnetic bearings, a processor controlled by software or firmware controls the generation of force vectors that position the rotor relative to its bearings in a "bounce" mode in which the rotor axis is displaced from the principal axis defined between the bearings and a "tilt" mode in which the rotor axis is tilted or inclined relative to the principal axis. Waveform driven perturbations are introduced to generate force vectors that excite the rotor in either the "bounce" or "tilt" modes.